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10/790,233	03/02/2004	Shohei Moriwaki	70456-018	9841

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EXAMINER	
ALIA, CURTIS A	
ART UNIT	PAPER NUMBER
2616	
MAIL DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/790,233	MORIWAKI, SHOHEI	
	Examiner	Art Unit	
	Curtis A. Alia	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 January 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-6* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date __.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

Applicant's amendment filed on 17 January 2008 has been entered. No claims have been cancelled, amended, or added.

Response to Arguments

1. Applicant's arguments filed on 17 January 2008 have been fully considered but they are not persuasive.

In response to Applicant's argument regarding claim 1, the examiner respectfully disagrees. It is agreed that Booth does not teach a retimer controlling a physical layer a microcomputer performing general control of the communication module. However, Taborek teaches the use of a retimer controlling a physical layer (to resynchronize the PMD, as stated in previous office action, see paragraph 53, lines 7-10, paragraph 56, lines 12-15, Figure 3, Retimer RTMR is coupled to the PHY (CHIPSET) 310 block of the switched line card). Furthermore, the retimer, as part of the optical module, is directly connected to all other components of the module/system comprising multiple modules through the XAUI bus (see paragraph 57, the XAUI is a generic bus that operates to connect to I/O devices, processors, and programmable logic devices). Therefore, the XAUI transmits control information between the different components on the module and/or modules connected between boards of the system as a whole.

Also, in response to Applicant's argument regarding the copy of the register having a value updated by the retimer in accordance with a pre-determined timing, the examiner respectfully disagrees. Booth states in column 8, lines 11-32 that the auto-polling unit monitors the changes in the value of the status register of the physical layer interface device according to a pre-determined period of time), read: the auto-polling unit copies the value in the status register so that it can be compared to the next-polled status that will occur after the next pre-determined time interval. Therefore, Booth does teach the copying of a register having a value that is dependent on the physical layer (status of the physical layer interface device), which Taborek teaches is controlled by the retimer, the copying done in accordance with the pre-determined timing by the auto-polling unit.

The same response is made regarding the arguments concerning the rejection of claim 4.

Claim Rejections - 35 USC § 103

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Booth (previously cited US 6,065,073) in view of Taborek et al. (previously cited US 2003/0217215).

Regarding claim 1, Booth discloses a communication module comprising a microcomputer performing general control of the communication module (see column 8, lines 11-15, Network interface card contains a chipset controlling the interface connection), wherein the microcomputer includes a storing portion storing a copy of a register in accordance with a predetermined timing (see column 8, lines 24-29, status register is auto-polled based on a predetermined period of time) and an input/output portion outputting the copy of the register stored in the storing portion to a host device in accordance with a request by the host device (see column 8, lines 18-21 and 28-30, control values are changed via an MDIO interface by the auto-polling unit configured by the host CPU).

Booth teaches all of the limitations with the exception that the communication module comprises a retimer controlling a physical layer. Taborek, from the same field of endeavor teaches that the retimer is a physical layer controller and is used to clean up and amplify signals received through a physical dependent medium (PMD) (see paragraph 53, lines 7-10, paragraph

56, lines 12-15, Figure 3, Retimer RTMR is coupled to the PHY (CHIPSET) 310 block of the switched line card). Thus, it would have been obvious to a person having ordinary skill in the art at the time of the invention to use a retimer as the physical layer controller for a WDM signal (such as optical fiber signal). This is done to resynchronize the signal with the local clock. The motivation to combine these teachings is that when dealing with an optical signal's degeneration, the signal must be refreshed before being converted to electrical signal, and vice versa.

4. Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Booth and Taborek in view of XENPAK Multi-source agreement (hereinafter "XENPAK").

Regarding claim 2, Booth and Taborek do not explicitly teach that the storing portion further stores contents of a register defined by 10-Gb Ethernet communication module multi-source agreement.

However, the above-mentioned claimed limitation is well known in the art, as evidenced by XENPAK. In particular, XENPAK teaches that besides the standard registers defined for all 10-Gb Ethernet transceiver modules by IEEE 802.3ae, the XENPAK also defines a set of non-volatile registers (NVRs) (see section 10.8.3, XENPAK Register Set).

In view of the above, having the module of Booth and Taborek, then given the well-established teaching of XENPAK, it would have been obvious to a person having ordinary skill in the art at the time of the invention to modify the module of Booth and Taborek as taught by XENPAK, since XENPAK stated that a XENPAK module can be implemented into a communication module so that it conforms to the XENPAK multi-source agreement.

Regarding claim 3, Booth and Taborek do not explicitly teach that the microcomputer further includes a nonvolatile memory in which the copy of the register stored in the storing portion is written.

However, the above-mentioned claimed limitation is well known in the art, as evidenced by XENPAK. In particular, XENPAK teaches that besides the standard registers defined for all 10-Gb Ethernet transceiver modules by IEEE 802.3ae, the XENPAK also defines a set of non-volatile registers (NVRs) (see section 10.8.3, XENPAK Register Set).

In view of the above, having the module of Booth and Taborek, then given the well-established teaching of XENPAK, it would have been obvious to a person having ordinary skill in the art at the time of the invention to modify the module of Booth and Taborek as taught by XENPAK, since XENPAK stated that a XENPAK module can be implemented into a communication module so that it conforms to the XENPAK multi-source agreement.

5. Claims 4-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Firoozmand (previously cited US Patent No. 5,136,582) and Booth, in view of Taborek, in further view of XENPAK.

Regarding claim 4, Firoozmand discloses a communication module comprising a first and second microprocessor performing control of the communication module (see column 4, lines 16-18, plurality of processors), wherein the first microprocessor includes a first storing portion (see column 4, lines 16-18, at least a first and second memory) and a first input/output portion

(see column 4, lines 19-22) and the second microcomputer includes a second storing portion (see column 4, lines 16-18, at least a first and second memory) and a second input/output portion (see column 4, lines 19-22).

Firoozmand does not explicitly teach that the first storing portion stores a copy of a register having a value updated by the retimer in accordance with predetermined timing and the first input/output portion outputs the copy of the register stored in the first storing portion to a host device in accordance with a request by the host device, and the second input/output portion outputs the contents stored in the second storing portion to the host in accordance with a request by the host device.

However, the above-mentioned claimed limitations are well known in the art, as evidenced by Booth. In particular, Booth teaches that a status register is auto-polled based on a predetermined period of time (see column 8, lines 24-29) and that the status register values are transmitted via an MDIO interface by the auto-polling unit configured by the host CPU (see column 8, lines 18-21 and 28-30).

In view of the above, having the module of Firoozmand, then given the well-established teaching of Booth, it would have been obvious to a person having ordinary skill in the art at the time of the invention to modify the module of Firoozmand as taught by Booth, since Booth stated at while a host polls one register more often than the other, both processors would not be overloaded. A first processor would be capable of performing tasks on one set of memory, such as updating the first register based on the retimer and outputting the value of the register via a first input/output port, and a second processor would be capable of performing another task, such

as sending the value of registers via an input/output port to a host device in response to the request of the host device.

Firoozmand and Booth do not explicitly teach that the communication module comprises a retimer controlling a physical layer.

However, the above-mentioned claimed limitation is well known in the art, as evidenced by Taborek. In particular, Taborek teaches that the retimer is a physical layer controller and is used to clean up and amplify signals received through a physical dependent medium (PMD) (see paragraph 53, lines 7-10, paragraph 56, lines 12-15, Figure 3, Retimer RTMR is coupled to the PHY (CHIPSET) 310 block of the switched line card).

In view of the above, having the module of Firoozmand and Booth, then given the well-established teaching of Taborek, it would have been obvious to a person having ordinary skill in the art at the time of the invention to modify the module of Firoozmand and Booth as taught by Taborek, since Taborek stated that when dealing with an optical signal's degeneration, the signal must be refreshed before being converted to electrical signal, and vice versa. This is done to resynchronize the signal with the local clock.

Firoozmand, Booth, and Taborek do not explicitly teach that the second portion stores contents of a register defined by 10-Gb Ethernet communication module multi-source agreement and the first microcomputer further includes a first nonvolatile memory in which the copy of the register stored in the first storing portion is written and the second microcomputer further includes a second nonvolatile memory in which the contents stored in the storing portion is written.

However, the above-mentioned claimed limitation is well known in the art, as evidenced by XENPAK. In particular, XENPAK teaches that besides the standard registers defined for all 10-Gb Ethernet transceiver modules by IEEE 802.3ae, the XENPAK also defines a set of non-volatile registers (NVRs) (see section 10.8.3, XENPAK Register Set).

In view of the above, having the module of Firoozmand, Booth and Taborek, then given the well-established teaching of XENPAK, it would have been obvious to a person having ordinary skill in the art at the time of the invention to modify the module of Firoozmand, Booth and Taborek as taught by XENPAK, since XENPAK stated that a XENPAK module can be implemented into a communication module so that it conforms to the XENPAK multi-source agreement.

Regarding claim 5, Booth, Taborek and Firoozmand teach all of the limitations with the exception that the first microcomputer further includes a first nonvolatile memory in which the copy of the register stored in the first storing portion is written in accordance with a predetermined timing.

However, the above-mentioned claimed limitation is well known in the art, as evidenced by XENPAK. In particular, XENPAK teaches that besides the standard registers defined for all 10-Gb Ethernet transceiver modules by IEEE 802.3ae, the XENPAK also defines a set of non-volatile registers (NVRs) (see section 10.8.3, XENPAK Register Set).

In view of the above, having the module of Firoozmand, Booth and Taborek, then given the well-established teaching of XENPAK, it would have been obvious to a person having ordinary skill in the art at the time of the invention to modify the module of Firoozmand, Booth

and Taborek as taught by XENPAK, since XENPAK stated that a XENPAK module can be implemented into a communication module so that it conforms to the XENPAK multi-source agreement.

Regarding claim 6, Firoozmand, Booth, and Taborek do not explicitly teach that the second microcomputer further includes a second nonvolatile memory in which the copy of the register stored in the second storing portion is written in accordance with a predetermined timing.

However, the above-mentioned claimed limitation is well known in the art, as evidenced by XENPAK. In particular, XENPAK teaches that besides the standard registers defined for all 10-Gb Ethernet transceiver modules by IEEE 802.3ae, the XENPAK also defines a set of non-volatile registers (NVRs) (see section 10.8.3, XENPAK Register Set).

In view of the above, having the module of Firoozmand, Booth and Taborek, then given the well-established teaching of XENPAK, it would have been obvious to a person having ordinary skill in the art at the time of the invention to modify the module of Firoozmand, Booth and Taborek as taught by XENPAK, since XENPAK stated that a XENPAK module can be implemented into a communication module so that it conforms to the XENPAK multi-source agreement.

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Curtis A. Alia whose telephone number is (571) 270-3116. The examiner can normally be reached on Monday through Friday, 8am-5pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Aung S. Moe can be reached on (571) 272-7314. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. Regarding more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Curtis A Alia/
Examiner, Art Unit 2616
4/11/2008

/Aung S. Moe/
Supervisory Patent Examiner, Art Unit 2616

CAA